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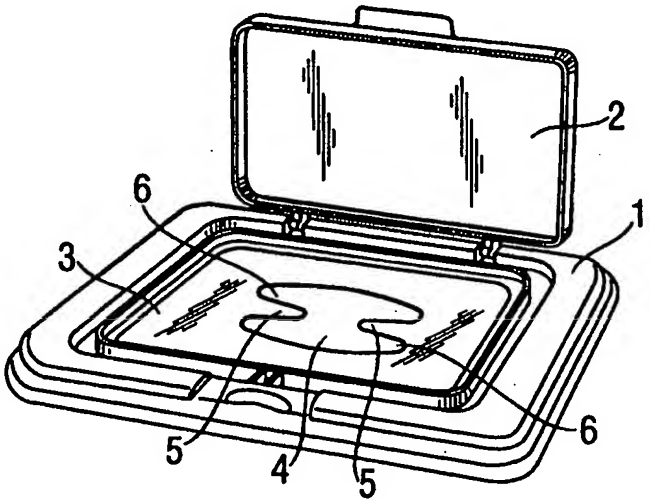
(54) Title: DEVICE FOR ONE BY ONE REMOVAL OF LAMINAR ARTICLES FROM INSIDE A CONTAINER



(57) Abstract

A device for a container in which laminar articles folded in zig-zag fashion are separately removed. The opening (4) of the device is smaller than the separate articles and has wings (5) projecting into it, forming narrow passages (6) through which part of a laminar article passes as it is removed.

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DEVICE FOR ONE BY ONE REMOVAL OF LAMINAR ARTICLES FROM INSIDE A CONTAINER

The present application relates to a device for the one-by-one removal of laminar articles from inside a container, for example, moistened paper towels folded in zig-zag fashion.

Known in the art are containers provided with a device for the withdrawal of laminar articles, made up of an opening of a certain width to permit the one-by-one removal of the folded laminar articles which it contains, even by inserting a hand inside the container. Said opening is smaller in width than that of the folded articles, so that when the first article is pulled it does not drag the next one out with it.

One example of a container with a device of this type is that described in utility model 9600309 applied for in favour of the firm ARBORA HOLDING, S.A.

Experience has shown that it is possible to provide the device in question with features so far not supplied, in order to achieve greater security when removing the laminar articles one by one, preventing removal of more than one article at a time.

The device object of the present application has been designed in accordance with the premises outlined for the one-by-one removal of laminar articles from inside a container.

This device is of the type which has an opening on one side or cover of the container, which opening is smaller than the separate articles folded in zig-zag fashion inside the container. On the basis of this known embodiment the device is essentially characterized in that the outline of the opening presents some wings which project towards the interior of the opening combined with some inlets on the outline edge itself which form narrow passages through which part of the laminar article passes under friction, preventing the removal of more than one article at a time.

For a better understanding of all that is set out in this specification some drawings are attached which show, solely by way of example, a practical example of embodiment of the case.

In said drawings, Figure 1 is a perspective view of the device fitted onto a cover of a container; Figure 2, 3, 4 and 5 are further examples of three specific embodiments of the device in plan and larger-scale views.

The device object of the present application is fitted, in the example illustrated, onto a first cover 1 of a container, which container is not shown. The first cover has a second cover 2 articulated onto it, which second cover in its lowered position closes off the device for the removal of the articles inside the container, provided at the bottom with a depressed zone 3 of the cover 1.

The device presents the essential characteristic (Figures 2, 3 and 4) of having an opening 4, 4a, 4b, 4c whose outline presents some wings 5, 5a, 5b, 5c which project towards its interior, combined with some inlets 6, 6a, 6b, 6c formed on the outline edge itself, which form narrow passages through which part of the laminar article passes under friction during removal thereof. The combined action of the wings and the narrow passages forms an obstacle which prevents the removal of more than one laminar article at a time.

As indicated above, the specific embodiments shown in the drawings are mere examples of embodiment of devices with the characteristics of the invention, and should not be understood to be restrictive. The device can thus be applied to any type of cover or container of shapes different to those shown in Figure 1. For the same reason , the openings 4, 4a, 4b, 4c with the wings 5, 5a, 5b, 5c and inlets 6, 6a, 6b, 6c, may have different dimensions, shapes and outlines.

WHAT IS CLAIMED IS:

1. Device for the one-by-one removal of laminar articles from inside a container, of the type which has an opening on one side or cover of the container, which opening is smaller than the separate articles folded in zig-zag fashion inside the container, essentially characterized in that the outline of the opening presents some wings which project towards the interior of the opening combined with some inlets on the outline edge itself which form narrow passages through which part of the laminar article passes under friction, preventing the removal of more than one article at a time.

Fig. 1

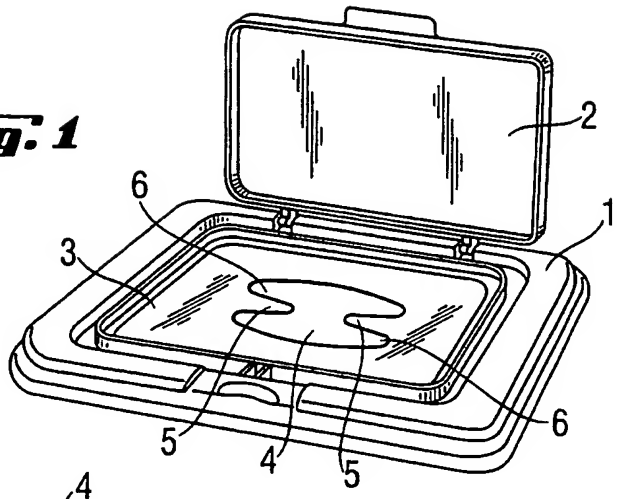


Fig. 2

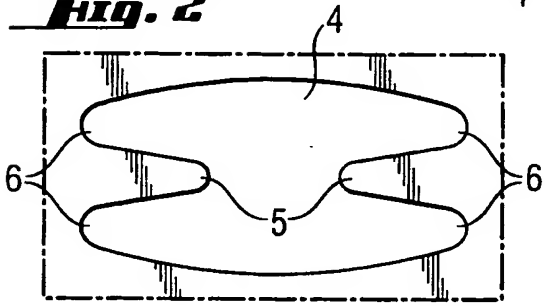


Fig. 3

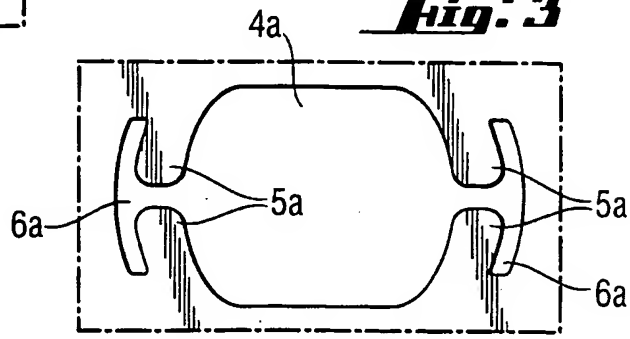
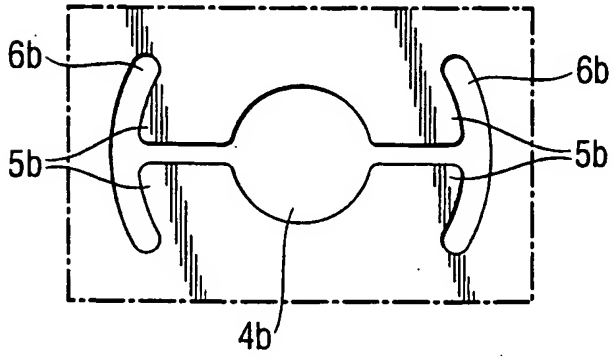


Fig. 4



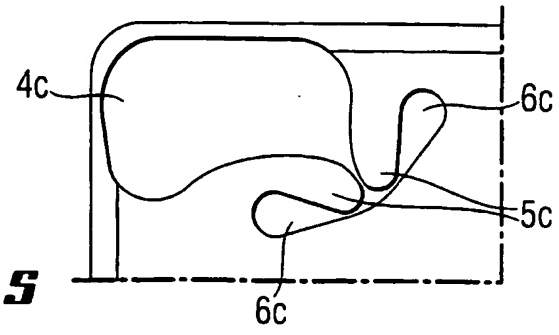


Fig. 5

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US97/20282

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) : B65H 01/00
US CL : 221/63

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 221/63, 48, 33

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2,640,587 A (M. B. SMITH) 2 June 1953, col. 2, lines 25-40.	1
X	US 3,036,729 A (N. J. ASMAN) 29 May 1962, Figure 4.	1
X	US 3,269,593 A (M. LODEWICK et al) 30 August 1966, col. 1, lines 40-60.	1
X	GB 2,235,431 A (KIMBERLY-CLARK LIMITED) 6 March 1991, Figure 4 and page 7.	1

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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